

Serial No. 10/072,760

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (presently amended) A park brake system for a vehicle  
~~vehicles~~ comprising:

an actuator with an electric drive motor having an output  
and an electronic control unit,

a reduction gear having an input connected to the output  
of ~~the~~ said electric motor and a pull force output member for  
connection to mechanical brakes of the vehicle, and

a command unit connected to said electronic control unit;

wherein said reduction gear comprises a first reduction  
train and a second reduction train, ~~the~~ said first reduction  
train including a worm gear and ~~the~~ said second reduction train  
including a threaded spindle and a screw nut engaged with said  
spindle, said worm gear connecting said spindle to the output  
of said electric motor, and said pull force output member being  
~~connected to the screw nut~~ a pivotally mounted two-armed lever  
having a first arm directly connected to said screw nut and a  
second arm directly connected to a brake cable, said first and  
second arms being located at opposed ends of said lever and are  
rigidly connected to each other during both an activated  
condition of the brake cable and during a released condition of  
the brake cable.

Claims 2-12 (cancelled)

Claim <sup>2</sup>~~13~~ (new) The park brake system of claim 1, wherein said electric drive motor is a high torque brushless DC motor.

Claim <sup>3</sup>~~14~~ (new) The park brake system of claim 1, wherein said electric drive motor has an outer rotor and a removable cover is fitted over said rotor.

*b2  
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Claim <sup>4</sup>~~15~~ (new) A park brake system for a vehicle comprising:

- an actuator with an electric drive motor having an output and an electronic control unit,
- a reduction gear having an input connected to the output of said electric motor and a pull force output member for connection to mechanical brakes of the vehicle, and
- a command unit connected to said electronic control unit;

said reduction gear comprising a first reduction train and a second reduction train, said first reduction train including a worm gear and said second reduction train including a threaded spindle and a screw nut engaged with said spindle, said worm gear connecting said spindle to the output of said electric motor,

said pull force output member being connected to said screw nut, and

a housing structure having an intermediate wall and a plurality of side walls extending from said intermediate wall and defining an open space on both sides of said intermediate wall, and a pair of covers connected to said side walls for closing the spaces on both sides of said intermediate wall.

<sup>5</sup>  
Claim ~~16~~<sup>4</sup> (new) The park brake system of claim ~~15~~<sup>4</sup>, wherein said drive motor and said reduction gear are mounted on opposite sides of said intermediate wall.

<sup>6</sup>  
Claim ~~17~~<sup>4</sup> (new) The park brake system of claim ~~15~~<sup>4</sup> wherein said intermediate wall is integrally molded with a tubular mounting structure for said spindle and for said screw nut.

*b2 cont.*  
<sup>7</sup>  
Claim ~~18~~<sup>4</sup> (new) The park brake system of claim ~~15~~<sup>4</sup>, wherein said intermediate wall is integrally molded with a tubular mounting structure for a rotor of said electric drive motor.

<sup>8</sup>  
Claim ~~19~~ (new) A park brake system for a vehicle comprising:

an actuator with an electric drive motor having an output and an electronic control unit,

a reduction gear having an input connected to the output of said electric motor and a pull force output member for connection to mechanical brakes of the vehicle, and

a command unit connected to said electronic control unit;

said reduction gear comprising a first reduction train and a second reduction train, said first reduction train including a worm gear and said second reduction train including a threaded spindle and a screw nut engaged with said spindle, said worm gear connecting said spindle to the output of said electric motor,

said pull force output member being connected to the screw nut,

a housing structure with an intermediate wall for mounting said drive motor and said spindle,

said drive motor and said reduction gear are mounted on opposite sides of said intermediate wall.

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Claim <sup>9</sup>~~20~~ (new) A park brake system for a vehicle comprising:

an actuator with an electric drive motor having an output and an electronic control unit,

a reduction gear having an input connected to the output of said electric motor and a pull force output member for connection to mechanical brakes of the vehicle, and

a command unit connected to said electronic control unit;

said reduction gear comprising a first reduction train and a second reduction train, said first reduction train including a worm gear and said second reduction train including a threaded spindle and a screw nut engaged with said spindle, said worm gear connecting said spindle to the output of said electric motor,

said pull force output member being connected to the screw nut,

said command unit comprising an electric switch, a pull grip for operating said switch, a latch mechanism for latching said pull grip in an actuated position and a release key to disengage said latch mechanism.

Claim <sup>10</sup>~~21~~ (new) The park brake system of claim <sup>9</sup>~~20~~ wherein said pull grip is spring-loaded to a normal release position by a spring mechanism that provides a haptic feedback to an

operator on movement of said pull grip to said actuated position.

<sup>11</sup>  
Claim ~~22~~ (new) A park brake system for a vehicle comprising:

an actuator with an electric drive motor having an output and an electronic control unit,

a reduction gear having an input connected to the output of said electric motor and a pull force output member for connection to mechanical brakes of the vehicle, and

*b2 cont*  
a command unit connected to said electronic control unit; said reduction gear comprising a first reduction train and a second reduction train, said first reduction train including a worm gear and said second reduction train including a threaded spindle and a screw nut engaged with said spindle, said worm gear connecting said spindle to the output of said electric motor,

said pull force output member being connected to said screw nut through a flexible traction member deflected by a pulley.

<sup>12</sup>  
Claim ~~23~~ (new) The park brake system of claim <sup>11</sup> ~~22~~ wherein said pull force output member is adapted for connection to a brake cable.

<sup>13</sup>  
Claim ~~24~~ (new) The park brake system of claim <sup>11</sup> ~~22~~ wherein said electric drive motor has an outer rotor and a removable cover fitted over said rotor.

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<sup>14</sup>  
Claim ~~25~~ (new) The park brake system of claim ~~22~~<sup>11</sup> wherein said  
electric drive motor is a high torque brushless DC motor.

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